A Review of Modern Recommender Systems Using Generative Models (Gen-RecSys)

Year: 2024 | Citations: 107 | Authors: Yashar Deldjoo, Zhankui He, Julian McAuley, A. Korikov, Scott Sanner

---

Abstract

Traditional recommender systems typically use user-item rating histories as their main data source. However, deep generative models now have the capability to model and sample from complex data distributions, including user-item interactions, text, images, and videos, enabling novel recommendation tasks. This comprehensive, multidisciplinary survey connects key advancements in RS using Generative Models (Gen-RecSys), covering: interaction-driven generative models; the use of large language models (LLM) and textual data for natural language recommendation; and the integration of multimodal models for generating and processing images/videos in RS. Our work highlights necessary paradigms for evaluating the impact and harm of Gen-RecSys and identifies open challenges. This survey accompanies a "tutorial" presented at ACM KDD'24, with supporting materials provided at: https://encr.pw/vDhLq.